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SYSTEM AND METHOD FOR RENEGOTIATING A FINANCIAL INSTRUMENT

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BACKGROUND OF THE INVENTION

[0002] The present invention relates to systems and methods for conducting financial transactions over a network and, more particularly, to systems and methods for renegotiating financial instruments over a network.

[0003] Open communication networks, such as the Internet, in combination with the prevalence of personal computers that access such networks, have given rise to electronic commerce in which personal computers operated by customers and clients exchange information with and conduct business transactions with computing systems operated by merchants. A burgeoning component of electronic commerce comprises banking and investment transactions. Such networks enable a customer of a financial institution or investment institution, through his or her personal computer, to access his or her account at that financial or investment institution and remotely perform such financial transactions as transferring funds from one account to another at the institution, paying bills to third parties using funds of the institution and the like.

[0004] An example of such a system is disclosed in U.S. Patent No. 6,131,810 issued to Weiss et al. That patent discloses a consumer banking system and method in which a customer, at his or her personal computer, accesses the computer system of a financial institution by way of the Internet to perform such functions as opening a checking account, purchasing a certificate of deposit, obtaining a credit card and applying for a loan. The financial institution disclosed in that

patent is capable of exchanging information and opening accounts with customers who access that institution from a variety of input sources in addition to personal computers, such as automatic teller machines ("ATM's"), telephones, personal digital assistants, ("PDA's"), telephone representatives and the like.

[0005] It is now commonplace for a bank customer to access a Web page on the Internet and, by providing personal identification information, access current information regarding the customer's various accounts with the financial institution that maintains the Web page. However, a disadvantage with such systems is that the number and variety of transactions that can be performed is limited. For example, while it might be possible for a customer of a financial institution to transfer funds from one account to another, or to purchase a certificate of deposit, it is not possible for that customer to, for example, renegotiate or "roll over" a certificate of deposit or other financial instrument. Accordingly, there is a need for a system and method for conducting financial transactions over a network that possesses greater capabilities with respect to transfer of funds.

SUMMARY

[0006] The present invention is a method and system for renegotiating a financial instrument in which all of the steps of the renegotiation are conducted over a network such as the Internet. The method of the invention includes the steps of initiating a logical session between a client program and a client interface affiliated with a financial institution, displaying financial information relating to a client on the client interface, displaying a message on the client interface that a financial instrument of that client may be renegotiated, transmitting a request to renegotiate the financial instrument to the client interface, displaying a disclosure document pertaining to the request to renegotiate, and if the client agrees to accept the terms of the disclosure document, displaying a plurality of renegotiation options to the client on the client interface and finally, transmitting a selection of one of the renegotiation options to the client interface.

[0007] The system of the present invention includes a client interface program that is resident in the computer system of a financial institution. The client interface program is capable of initiating a logical session with a client program and exchanging data with it, and sending financial information to and retrieving financial information from a legacy system of the financial institution having a customer data repository. An application server houses the client interface program and is connected to establish a logical session with a client program, resident on a personal computer, such that financial information relating to the client is displayed on a display device, such as a monitor, associated with the client program, and the client interface program is capable of retrieving data from the data repository that a financial instrument of the client may be renegotiated and displaying the message on the display device indicating that the financial instrument may be renegotiated. The client interface program is capable of soliciting and receiving a request to renegotiate the financial instrument from the client, displaying a disclosure document pertaining to the financial instrument to be renegotiated and requesting the client to assent to its terms and, in the event that the client agrees to accept the terms of the disclosure document, the client interface program is capable of displaying a plurality of renegotiation options to the client and of receiving a selection of one of the renegotiation options from the client. In a preferred embodiment, the client program may be merely an Internet access program, such as is provided by America Online ("AOL"), Internet Explorer or the like that is capable of providing access to a Website maintained by the client interface program and for exchanging information over the Internet with the computer system of the financial institution.

[0008] In a preferred embodiment, the method of the present invention is employed to renegotiate a certificate of deposit that has reached its maturity date. The method preferably is incorporated into an overall online banking and investing service provided by the associated financial institution. The process begins when a customer of the financial institution accesses the Web page or portal of the financial institution. There, the customer enters appropriate identification information, such as a user identification ("ID") number and password. The system of the present invention checks that information against stored information in an application that executes on the mainframe of the financial institution. If the identification

information is valid, the customer's account summary is displayed at the screen of the customer's computer. In addition, the customer will access a page containing a message stating that a certificate of deposit account has matured, has been renewed automatically, and that a grace period exists during which the customer may renegotiate the certificate of deposit or, in the alternative, to close it and transfer funds generated by the certificate of deposit to another account of the customer at the institution. The message also directs the customer back to the account summary page where the customer picks a link that takes him or her to a certificate of deposit account details page. There, the customer is given the option of either closing the account or acquiring a new certificate of deposit with the same or different options, such as amount or term.

[0009] If the customer elects to close the account, the customer is then asked to select one of the customer's accounts, such as a checking or a savings account, to which the funds are to be transferred. That transaction is stored in a current day transaction data base and ultimately the customer's accounts are adjusted accordingly. In the alternative, if the customer elects to change the certificate of deposit options, the system displays an electronic records disclosure form and asks the customer to agree to its terms. That disclosure form is stored in the application server. If the customer agrees to the disclosure terms, the customer is then presented with a page displaying a set of certificate of deposit account options provided by the financial institution. Such options are obtained from a product information repository ("PIR") data base associated with the application server. In addition, information about the customer (such as the amount of funds available to be transferred to purchase a certificate of deposit of greater value) is considered and only those products that are appropriate for that customer are capable of being selected by the customer from among the entire range of product presented.

[0010] After the customer has selected the account type (that is, the specific type of certificate of deposit to be purchased) the customer is presented with a page that displays all of the available terms of that certificate of deposit and is asked to select a specific term from among them. The information displayed on that page is also obtained from the PIR data base. Once the

customer has selected the term, the customer is presented with a page that asks the customer if the customer wishes to purchase a new certificate of deposit in the same amount as the matured certificate of deposit, add additional funds from another account at the financial institution to purchase a certificate of deposit of a greater amount or to make a partial withdrawal (that is, reinvest less than the full amount of the maturing certificate of deposit) and purchase a certificate of deposit of a lesser amount than the matured certificate of deposit. If the customer elects to add funds to the certificate of deposit or reduce the amount of the certificate of deposit, the customer is then asked to indicate the account from which the additional funds will be withdrawn or into which the surplus funds will be deposited, respectively.

[0011] Once that information is provided by the customer, the system displays a summary page that asks the customer to indicate approval. If the customer approves, the customer is then asked to review a disclosure form that lists all of the terms of the renegotiated certificate of deposit and indicate acceptance of those terms. If the customer indicates acceptance of the terms, the system displays a renewal receipt that confirms the transaction and may be printed by the customer at the customer's computer.

[0012] Accordingly, the present invention provides a method and system that enables a customer of a financial institution to renegotiate a financial instrument in a process that is entirely automated from the standpoint of the financial institution, and at the same time provides the customer the convenience of renegotiating the financial instrument from a location physically remote from the financial institution. Other objects and advantages of the invention will be apparent from the following description, the accompanying drawings and the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] Fig. 1 is a schematic representation of the system architecture of the present invention;

[0014] Fig. 2 is a flowchart showing the method of the present invention;

[0015] Fig. 3 shows a sign-on page of the present invention that provides access to various financial accounts of a customer;

[0016] Fig. 4 shows an account summary page of the present invention;

[0017] Fig. 5 shows a "View Messages" page of the present invention;

[0018] Fig. 6 shows a "Certificate of Deposit Account Details" page of the present invention;

[0019] Fig. 7 shows a "CD Close Account" page of the present invention;

[0020] Fig. 8 shows a "CD Close Account-Review" page of the present invention;

[0021] Fig. 9 shows a "CD Close Account-Confirmation" page of the present invention;

[0022] Fig. 10 shows an "Electronic Records Disclosure" page of the present invention;

[0023] Fig. 11 shows a "Change CD Options-Select Account Type" page of the present invention;

[0024] Fig. 12 shows a page of the present invention that displays the terms offered to a customer;

[0025] Fig. 13. shows a page of the present invention that prompts a user to select a balance amount;

[0026] Fig. 14 shows a page of the present invention that provides a review of selections chosen by a customer;

[0027] Fig. 15 shows a page of the present invention that displays a disclosure form that contains all of the terms specific to the financial instrument selected by a customer; and

[0028] Fig. 16 shows a page of the present invention that displays the confirmation of the renewal of the financial instrument selected by a customer.

DETAILED DESCRIPTION

[0029] The system of the present invention, generally designated 20, is shown schematically in Fig. 1. A customer computer 22, preferably having an associated printer 24, is connected to an open network such as the Internet 26. It should be noted that it is within the scope of the present invention to utilize a personal digital assistant ("PDA"), cellular telephone, touch screen kiosk, or the like instead of, or in addition to, computer 22. Furthermore, other networks, such as a secure network, local area network ("LAN") or wide area network ("WAN"), may be employed instead of open network 26 and not depart from the scope of the invention. The customer computer 22 may include Web accessing software, such as Netscape Navigator, Internet Explorer, America Online ("AOL"), that is referred to herein as a "client program."

[0030] The on-line banking system of the financial institution, generally designated 28, includes an external firewall 30 that allows communication with the Internet 26. The firewall 30 is connected to a distributed director 31, used for load balancing, and the distributed director is connected to an array of Web servers 32. Preferably, an internal firewall 34 is placed between the Web servers 32 and application servers 36.

[0031] The application servers 36 house the application software, written in JAVA, that performs the process of the invention. This software is referred to herein as the "client interface" since it interacts with the client program. Application servers 36 are connected to session data base 38. Application servers 36 communicate with business-to-business ("B2B") servers 40 to retrieve rate information from the product information repository ("PIR") data base 42. Application servers 36 communicate with electronic disclosure automation system ("eDAS") data base 43 to retrieve disclosure documents required for the transaction. Application servers 36 use Customer Information Control System ("CICS") client software (a product of IBM Corp.) to communicate with the enterprise connectivity interface ("ECI") gateway servers 44 that are connected to the mainframe 46 of the financial institution to access ECI.

[0032] Mainframe 46 contains legacy data bases, including a current day transaction data base 48 and Hogan data base 50. Application data base 52 is also associated with mainframe 46. Mainframe 46 also includes middleware for communication with data bases 48, 50, 52. The current day transaction data base 48 contains balance information and current day transaction information of the accounts of the customers of the financial institution. The Hogan data base 50 contains information specific to customer accounts, such as the maturity dates of certificates of deposit and the renewal grace periods of the various certificates of deposit. Hogan data base 50 also contains information regarding rates and fees for all of the available CD products. Such information regarding rates and fees for available CD products is periodically copied to the PIR data base 42, where it is more readily available to other programs of the system. The architecture of the system as it includes the firewalls, application server, gateway server, mainframe and legacy data bases is also disclosed in U.S. Application Ser. No. 09/458,872 filed December 9, 1999 and entitled "REAL TIME INTERNET BANKING," the disclosure of which is incorporated herein by reference.

[0033] The eDAS data base 43 is part of an electronic disclosure automation system for creating and displaying appropriate financial disclosure documents associated with specific financial products and containing information specific to various geographic regions. The details of the eDAS system are disclosed in co-pending and commonly owned U.S. Application Ser. No. 10/318,342 filed December 12 , 2002 and entitled "FINANCIAL DOCUMENT AUTOMATION SYSTEM AND METHOD," the disclosure of which is incorporated herein by reference. Application servers 36 are a part of a WebSphere system (provided by IBM Corp.). B2B servers 40 utilize webMethod software (a product of webMethods, Inc.). Information, such as rate information, is taken by eDAS from the PIR data base 42 to produce the disclosure documents.

[0034] The process of the present invention is shown in the flow chart in Fig. 2. The process begins with a customer of the financial institution utilizing the client program in his or her computer 22 (see Fig. 1) to access the Internet 26 and log on to a Website provided by the financial institution or bank, indicated in block 60. The client interface is associated with the

Website. As shown in Fig. 3, a "Sign On" page 62 from that Website is displayed on the client program and includes a space 64 for entry of the customer's user ID and a space 66 for entering his or her password, both necessary to identify the customer and allow the customer to proceed. This information is stored in the application data base 52 and is accessed through the mainframe 46 by an application server 36 through ECI gateway server 44, using CICS commands to the mainframe 46. The customer is requested to submit the information entered in spaces 64, 66 by using submit/cancel button commands 68, shown in Fig. 3. This information is compared with the information stored in application data base 52 and, if correct, the software in application server 36 initiates a session.

[0035] As shown in Fig. 2, at block 70, if the identification and password are correct, an "Account Summary" page is displayed on the client program, as indicated in block 72 and as shown in Fig. 4 as page 74. Otherwise, if either the identification or password is incorrect, as indicated in block 70 in Fig. 2, the user is given a generic error message and directed back to Sign On page 62 at Fig. 3.

[0036] As shown in Fig. 4, the Account Summary page 74 displays information regarding all of a customer's accounts at the particular financial institution. This information is also obtained from the mainframe 46 and various data bases, including Hogan data base 50 and current day transaction data base 48 through an application server 36 using CICS commands to mainframe 46. In addition, the application server 36 generates an indication, at 76, that the customer has messages. As shown in Fig. 5, the "View Messages" page 78 includes a message at 80 indicating that a particular certificate of deposit has reached its maturity date and informs the customer that he or she may make changes to the certificate of deposit or close it. This message is generated in response to a CICS inquiry to the Hogan data base 50 (see Fig. 1), which provides data regarding the certificate of deposit accounts of the customer, including amounts, maturity dates and renewal grace periods. The system of the invention also will determine whether a customer has another account into which the funds from the CD can be deposited if that customer elects to close the CD. If no such accounts are available, the system of the present

invention will not allow the customer to close the CD. If a CD is in its renewal grace period (typically a ten-day period from the maturity date), an application server 36 generates the message 80 on page 78 and message 92 on page 90 (see below in reference to Fig. 6). The customer is then directed back to the Account Summary page 74 (Fig. 4). This step is indicated in block 82 in Fig. 2.

[0037] As indicated in block 84, the customer returns to the Account Summary Page 74 (Fig. 4) and activates the hypertext link 86 named "Key Certificate of Deposit." As indicated in block 88 in Fig. 2, the customer is taken to a "Certificate of Deposit Account Details" page 90 shown in Fig. 6. Page 90 includes a notice 92 that the customer's certificate of deposit has matured, has been renewed automatically and invites the customer to change the options or close the account if the customer does not want the CD renewed. Preferably, the CD is renewed automatically after the close of business on the maturity date of the CD. However, if the customer were to attempt to view the CD before the financial institution has renewed it, the application of the invention will force the CD to renew upon the display of the Certificate of Deposit Account Details page 90.

[0038] The page 90 includes a "CHANGE CD OPTIONS" command button 94 and a "CLOSE ACCOUNT" command button 96. This option is indicated in block 98 of Fig. 2. In response to activation of button 96, the system of the present invention sends an inquiry to the Hogan data base 50 to check for holds or restraints on the CD and to retrieve closing balance information. If, as stated previously, the customer has no accounts to which funds from the matured CD can be transferred, the CLOSE ACCOUNT command button will not be active. As indicated in block 100 of Fig. 2, if the customer elects to close the account by activating the CLOSE ACCOUNT command button 96, as indicated at block 102, the customer is taken to a "CD Close Account" page 104, shown in Fig. 7. On the CD Close Account page 104, the customer is presented with a pull-down menu 106 of reasons for closing the account (e.g., "funds are needed") and a pull-down menu 108 of all the customer's other financial accounts to which funds may be transferred, such as a savings account, checking account and the like. Such accounts also would be displayed in

the Account Summary page 74 shown in Fig. 4. Once the customer has indicated the reason for closing the account and selected an appropriate account to which to transfer funds, the customer activates the CONTINUE command button 110 to continue the close process. In the alternative, the customer can cancel out of the process by activating the CANCEL command button 112.

[0039] As indicated in block 114 in Fig. 2, if the customer continues, the customer is taken to page 116 shown in Fig. 8 entitled "CD Close Account – Review" that displays the information relating to the certificate of deposit account to be closed, the reason for closing the account and the account to which the funds are to be transferred. The customer then activates the SUBMIT command button 118 to continue with the transaction, or in the alternative, may activate the CANCEL command button 120. As shown in Fig. 9 and indicated in block 122 in Fig. 2, the customer, having activated the SUBMIT button 118 (Fig. 8), is taken to the "CD Close Account-Confirmation" page 124. That page 124 displays the information shown on page 116 of Fig. 8 plus a confirmation number 126. The customer is asked to continue by activating the CONTINUE command button 128 that then takes the customer back to the "Account Summary" page 74 of Fig. 4. When the customer activates command button 118, the system of the present invention executes the CD close function that generates the confirmation number, submits a request to process the close in the Hogan data base 50 and submits a request to credit the selected account in the current day transaction data base 48 (Fig. 1). The system of the present invention also logs the event for audit purposes.

[0040] In the alternative, as shown in Fig. 6, if the customer elects to change to a different CD, he or she activates the "CHANGE CD OPTIONS" command button 94. In response to activation of command button 94, the system logs an audit event (i.e., makes a record of the time of day, activity, customer and so on) and sends an account inquiry to the Hogan data base 50 (Fig. 1) to determine if there are any restrictions on the CD and if the Hogan data base is available for use in performing the renegotiation process. As indicated in block 130 of Fig. 2, the customer is then taken to page 132 where the customer is shown the appropriate disclosure documents. Page 132, shown in Fig. 10 and entitled "Change CD Options – Electronic Records Disclosure" displays an

electronic records disclosure document appropriate for renegotiating a certificate of deposit. The document resides on application servers 36.

[0041] All of the information regarding the customer's financial accounts is contained in the Hogan data base 50. The rate and term information regarding the various certificate of deposit products of Figs. 11 and 12 is contained in the PIR data base 38 that is accessed by application servers 36. When the customer activates the "CHANGE CD OPTIONS" command button 94, information regarding the CD products offered by the financial institution is copied from the PIR data base 42 to the session data base 38.

[0042] The "Change CD Options – Electronic Records Disclosure" page 132 of Fig. 10 requests the user to activate the ACCEPT command button 133 or DECLINE command button 134. If the ACCEPT command button 134 is activated, as shown in block 135 in Fig. 2, the system of the invention then selects a set of CD products from among sets of CD products stored in the PIR data base 42 appropriate for the CD to be renegotiated, as shown in block 136. For example, if the CD to be renegotiated requires a minimum opening balance of $100,000 or more, a first set of CD products is retrieved from PIR data base 42. That set may include various account types of CD's having a minimum opening balance of $100,000, a minimum opening balance of $125,000 and so on. However, if the CD to be renegotiated has a minimum opening balance of less than $100,000, a second set of CD products is retrieved from PIR data base 42. That set may include the various account types of CD's shown in Fig. 11. Information is displayed on the page shown in Fig. 11 by the system of the present invention requesting terms, rates and APY's for the account types from the PIR data base 42.

[0043] Next, as shown in block 137, the system of the present invention determines from the Hogan data base 50 which other accounts the customer has at the financial institution, and from that information may make certain of the CD account types in the selected set of account types unavailable for selection by the customer. As shown in block 138 and in Fig. 11, the set of available CD account types is displayed on "Change CD Options – Select Account Type" page 142, along with details 143 of the automatically renewed CD. Page 142 includes a list of

products ("Account Type") in column 144, the qualifications for each product in column 146, the term range of each product in column 148 and the interest rate range and APY range in column 150. Page 142 includes a "Progress Indicator" box 151 that contains links that enable a customer to navigate to previous steps in the process.

[0044] On the far left, column 152 includes radio buttons that enable the customer to select which product he or she wishes to obtain. In this example, in box 154 the application software has determined from an inspection of the customer accounts in Hogan data base 50 that the customer is not eligible for the "Key Freedom CD" account because the customer does not meet the listed qualification of having "An active Key qualified checking account," and accordingly, a radio button is not made available to the customer for that account type. Rather, the words "Not Eligible" appear in place of the radio button. The application software determines, based upon the customer data in Hogan data base 50, which listed products to make available. Accordingly, the account types displayed on page 142 of Fig. 11 have been filtered by the system of the present invention so that only those account types that are appropriate for the particular customer, based upon that customer's account information, may be selected.

[0045] Once the customer has selected an account type by activating a radio button in column 152 of page 142, as indicated in block 156 of Fig. 2, the customer is directed to page 158, shown in Fig. 12, which displays the various terms available for the selected product. Page 158, entitled "Change CD Options – Select Term," displays a table in which column 160 lists the terms, columns 162 display the interest rate range and APY range, respectively, and columns 164 display the minimum and maximum balances corresponding to each interest rate and APY within each term. The customer is then required to enter a term in box 166 and indicate whether that number entered represents days, months or years in pull-down menu 168. The customer then activates the CONTINUE command button 170 at which point the customer is requested to select a balance amount, as indicated in block 172 of Fig. 2.

[0046] This information is requested on page 174, shown in Fig. 13 and is entitled "Change CD Options – Select Balance Amount." In box 176, the information selected on previous pages,

namely, the account type, term, interest rate, annual percentage yield, minimum opening balance and maximum balance, is displayed. In box 178 the customer is asked to select an amount. The customer has three choices, each having its own respective radio button: "No balance amount changes" 180, "Additional Deposit" 182, and "Partial Withdrawal" 184. With the "Additional Deposit" 182 option, the customer is asked to select from a pull-down menu at 186 the account from which funds are to be drawn and, in window 188, to enter the amount. Similarly, with the "Partial Withdrawal" 184 option, the customer is asked to select from a pull-down menu 190 the account to which funds are to be deposited from the old certificate of deposit and to enter the amount in window 200. The customer then continues by activating the CONTINUE command button 202. However, if the customer does not have a deposit-eligible account at the financial institution, page 174 is not displayed; rather, the customer is directed directly to page 206 displayed in Fig. 14.

[0047] As indicated in block 204 in Fig. 2, once the customer has selected the amount to be invested in the CD, the customer is then taken to page 206, shown in Fig. 14, on which the selections regarding the renegotiated CD are shown in box 208. Page 206, entitled "Change CD Options-Review Selections" does not complete the process, but merely displays all of the options selected by the customer in the previously described pages. The system of the present invention also sends an HREN request to the Hogan data base 50 and compares the product, rate and term retrieved from that data base for that account type to the information selected by the customer to verify the accuracy of the selected information. If the data match, the process continues; if it does not, the process is terminated.

[0048] If the customer approves of these selections, he or she activates the "SUBMIT" command button 210 and then is taken to page 212, shown in Fig. 15 and indicated at block 214 in Fig. 2. This page, entitled "Change CD Options – Review Disclosure," displays the disclosure information relating to the selected CD product with all of the selected information contained in it, such as the term, interest rate, annual percentage yield, interest payment options and early withdrawal penalties. The customer is asked to indicate acceptance by activating the "ACCEPT"

command button 216, shown at block 128 in Fig. 2. Also as shown in Fig. 2, if the customer elects not to accept, by activating the "DECLINE" command button 218, the customer is then taken back to the "Certificate of Deposit Account Details" page 90 in Fig. 6.

[0049] However, if the customer elects to accept the terms set forth in block 208, the customer is directed to page 220, shown at Fig. 16 and indicated in block 222 in Fig. 2. Page 220, entitled "Change CD Options – Confirmation," displays in box 224 a receipt including a confirmation number 226 and a summary of the entire transaction. The customer can print this page for his or her records using printer 24 (see Fig. 1). Once this transaction has been completed, the information is stored in the current day transaction data base 48 and, at the end of the business day, that data base of financial information will be used to update the Hogan data base 50. In addition, the system also logs an appropriate audit event for the completed renegotiation (i.e., no balance change, partial withdrawal or additional deposit).

[0050] As set forth above, the present invention provides a user-friendly, Web-accessible system that enables the customers of a financial institution to access their accounts at the financial institution and renegotiate a financial instrument such as a certificate of deposit. Moreover, this system is entirely automated and does not require the execution of printed documents or intervention of personnel of the financial institution.

[0051] While the method and system herein described constitute preferred embodiments of this invention, it is to be understood that the invention is not limited to this precise system and method, and that changes may be made therein without departing from the scope of the invention.

What is claimed is: